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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Karsten Laubner

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02/02/2006

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EXAMINER

SEFCHECK, GREGORY B

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/737,262

Applicant(s)

LAUBNER ET AL.

Examiner

Gregory B. Sefcheck

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Applicant's Response filed 12/8/2005 is acknowledged.
- No Amendments to the claims have been presented.
- Claims 1-19 remain pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6-9, 11-13, 16, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson (US004809259) in view of Lindberg et al. (US006157639A), hereafter Lindberg.

- In regards to Claims 1, 3, 11, and 19,

Jonsson discloses a method and device for maintaining synchronization of time slots in a switching network (Abstract; claim 1/11 – monitoring a correct time slot sequence in a time/space switching network for a time or space allocation of data channels to be switched).

Jonsson discloses the use of a marking device for inserting markings in a plurality of successive frames in the time slots of the connection channels to be switched (Col. 2, lines 1-5). Referring to Fig. 1, Jonsson shows that the value of the

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inserted marking is incremented or decremented by a value of 1 (claim 1/11 – inserting a monitoring value into a predetermined data channel of successive frames to be switched, wherein the value for each frame is incremented or decremented by a predetermined value; claim 3/19 – predetermined value = 1 and is derived from a counter).

Jonsson shows a scanning device at the output of the switching for equalizing the switching delay of the marked frames by comparing the markings of received data (Col. 2, lines 12-18).

Jonsson does not explicitly show forming a difference of the inserted contents of the data channel of successive frames, wherein the difference is equal to the predetermined value for indicating correct time slot sequence. Jonsson further does not show outputting an error when the difference does not equal the predetermined value.

Jonsson discloses feeding sequence instructions to a memory included in an equalizing means for synchronizing the time slots of switched data in response to a comparison of the markings in successive frames of switched data. A variety of comparison operations, such as a subtraction of successive frame markings, would enable a determination as to whether the data time slot sequence is correct (Col. 2, lines 31- 43; claim 1/11 – forming a difference of data contents of the predetermined data channel for immediately successive frames, wherein the difference is equal to the predetermined value for correct time slot sequence or an error is outputted).

It would have been an obvious design choice to one of ordinary skill in the art at the time of the invention to adapt the comparison step for checking time slot sequence integrity in the method and device of Jonsson by forming a difference of the inserted markings of successive frames. Such a comparison operation would enable determining if the time slots of data have been switched in the proper sequence. The result of such comparison also enables equalization of sequencing error through artificial delays.

Jonsson shows that monitoring and equalizing of time slots in the manner shown above is performed during the connection establishment stage. Jonsson does not disclose monitoring carried out during the entire connection period.

Lindberg discloses time slot sequence integrity in time switch stages and switches. Lindberg discloses maintaining time slot sequence integrity using a partial delay memory such that input and output time slot can be properly associated through continuous monitoring (Col. 4-5, lines 50-53; claim 1,11 – monitoring carried out during entire connection period).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the method and device of Jonsson for continuous monitoring of time slot sequence integrity throughout an entire connection period, as shown by Lindberg. This would enable Jonsson to maintain correct time slot sequence adaptively as network conditions change without the need to repeat the connection establishment stage.

- In regards to Claims 6 and 16,

Jonsson discloses a method and device for maintaining synchronization of time slots in a switching network that covers all limitations of the parent claims.

Referring to Fig. 3, Jonsson discloses a plurality of registers R1-R3 for inserting a plurality of individual markings for input line L (Col. 4, lines 7-43; claim 6/16 – inserting comprises a plurality of insertion units allocated to an input switching network line).

- In regards to Claims 7 and 17,

Jonsson discloses a method and device for maintaining synchronization of time slots in a switching network that covers all limitations of the parent claims.

Jonsson shows that the delay detection unit comprises a plurality of Parts allocated to two or more output lines for equalizing the delay of the data channels and regaining time slot synchronization (Fig. 4; Col. 2, lines 12-43; claim 7/17 – difference forming comprises a plurality of difference forming units allocated to two output switching network lines).

- In regards to Claims 2, 8, and 12;

Jonsson discloses a method and device for maintaining synchronization of time slots in a switching network that covers all limitations of the parent claims.

Jonsson does not expressly show an error counter allocated to each difference forming unit for counting errors between the comparison of difference and predetermined value.

Referring to Fig. 4, Jonsson discloses a plurality of AND gates allocated for each comparison unit that are utilized for representing the count of error delays with respect to each data channel (Col. 5-6, lines 18-10; claim 2/12 – counting errors for a lack of agreement between the formed difference and predetermined value; claim 8 – error counter comprises a plurality of error counting units allocated to a difference forming unit).

It would have been an obvious design choice to one of ordinary skill in the art at the time of the invention to utilize an arrangement of logic AND gates in the device of Jonsson for counting the delay errors in transmitted data channels. This would enable the counting of errors as well as providing the appropriate delays for equalizing the data and regaining synchronization amongst the various data channels.

- In regards to Claim 9,

Jonsson discloses a method and device for maintaining synchronization of time slots in a switching network that covers all limitations of the parent claims.

Jonsson shows that the inserting means may function along with an equalizing means for producing synchronous frames from non-synchronous frames having multiple delays (Col. 2, lines 31-43; claim 9 – insertion mechanism is fashioned in an equalizer for producing a plurality of synchronous frames from non-synchronous frames).

- In regards to Claim 13,

Jonsson discloses a method and device for maintaining synchronization of time slots in a switching network that covers all limitations of the parent claims.

Referring to Fig. 3, Jonsson shows that the number of individual inserted markings incremented in successive frames is derived from a counter CNT (Col. 4, lines 30-36; claim 13 – monitoring value is incremented by a predetermined value derived from a counter).

3. Claims 4, 5, 10, 14, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson in view of Lindberg as applied to claims 1 and 11 above, and further in view of Cloutier (US 5,790,543).

- In regards to Claims 4 and 14,

Jonsson discloses a method and device for maintaining synchronization of time slots in a switching network that covers all limitations of the parent claims.

Jonsson does not expressly show identifying time slot sequence integrity by comparing a predetermined value and a subtraction result determined from delayed and undelayed data content.

Cloutier discloses an apparatus and method for correcting jitter in data packets. Cloutier discloses determining a subtraction result from successive (undelayed and once-delayed) PCR values and comparing the result with a predetermined value to

correct synchronization of received data (Col. 10, lines 6-67; claim 4/14 – difference forming comprises a delay for delaying a predetermined data channel by one frame; claim 4/14 – determining a subtraction result from the content of a delayed channel and an undelayed channel; claim 4/14 – comparing the result with the predetermined value).

It would have been obvious to one of ordinary skill in the art at the time of the invention to derive the comparison step for checking time slot sequence integrity in the method and device of Jonsson by subtracting successive values of inserted reference data and comparing the result to a predetermined value. This modification is one explicit way of providing the comparison data that forms the basis for the instructions fed to the memory of the equalizing means, thereby enabling validation/correction of the data's time slot sequence.

- In regards to Claims 5 and 15,

Jonsson v. Cloutier discloses a method and device for maintaining synchronization of time slots in a switching network that covers all limitations of the parent claims.

Jonsson discloses a delay for analyzing delayed channels that includes a memory (Col. 4, lines 47-53; claim 5/15 – delay comprises at least one speech memory of time/space switching network).

- In regards to Claims 10 and 18,

Jonsson discloses a method and device for maintaining synchronization of time slots in a switching network that covers all limitations of the parent claims.

Jonsson does not explicitly show the inserting of marking values in a data channel to be in a test channel.

Cloutier discloses an apparatus and method for correcting jitter in data packets, in part by inserting PCR values in an optional adaption field (test channel; claim 10/18 – inserting a monitoring value in predetermined data channel is in a test channel).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and device of Jonsson by inserting marking values in a test channel of the data packets. This modification would provide a dedicated channel for the inserted marking used for monitoring time slot sequence integrity that is clearly partitioned from the data payload.

Response to Arguments

4. Applicant's arguments filed 12/8/2005 have been fully considered but they are not persuasive.

- In the Remarks on pg. 3 of the Amendment, Applicant contends that the rejections of claims 1-19 are not proper because the features of the claims are not taught by the cited art, specifically the features of monitoring correct

time slot sequence during the entire connection. Applicant fails to provide any further analysis or argument of the cited art regarding the specific citations relied upon to meet the claim limitations.

- The Examiner respectfully disagrees with the Applicant that the cited art does not teach the features of the claimed invention. As shown in the rejection above, the cited portions of Lindberg explicitly disclose that continuous monitoring is obtained by utilizing the disclosed device and method of Lindberg for time slot integrity, and the combination of Lindberg with Jonsson is shown to be proper. Furthermore, Jonsson discloses the use of a marking device for inserting markings in a plurality of successive frames in the time slots of the connection channels to be switched (Col. 2, lines 1-5) that clearly meets the claim limitation of "inserting a time slot integrity monitoring value into a predetermined data channel of successive frames to be switched". It is also noted in the rejection that Jonsson does not explicitly disclose a differential formation between the markings. However, the rejection continues to illustrate that such a comparative operation would have been obvious to one of ordinary skill in the art at the time of the invention based on the predetermined increment/decrement of the markings disclosed by Jonsson.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B. Sefcheck whose telephone number is 571-272-3098. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GBS
1-31-2006



JOHN PEZZLO
PRIMARY EXAMINER